

20000111.ba v02_n775.bam.20000111

>From ???@??? Tue Jan 11 00:25:58 2000 -0600
Date: Tue, 11 Jan 2000 00:23:52 CST
From: Old Tube Radios <boatanchors@theporch.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: BOATANCHORS digest 2775
Message-Id: <20000111062929.2D2BB27405@devel143.theporch.com>

BOATANCHORS Digest 2775

Topics covered in this issue include:

- 1) Re: Chuck's safety hints, my comments and additions.
by "Roberta J. Barmore" <rbarmore@indy.net>
- 2) VT Fuzes(Again)
by Andre Guibert <aguibert@sympatico.ca>
- 3) HQ180 Help Needed
by "Don Ehrlich" <ehrlich@olypen.com>
- 4) Australian AR8 rx
by BEN NOCK <G4BXD@compuserve.com>
- 5) Proximity fuse et al
by FRANKK6NL@aol.com
- 6) Tek 400 series air filters
by "John Gibson" <gibsonj@mindspring.com>
- 7) Re: Tek 400 series air filters
by "Benjamin D. Hall" <kd5byb@WT.NET>
- 8) Fwd: [R-390] R390A FS
by KB9VU@aol.com
- 9) RE: Measurements Model 59
by john <johnmb@mindspring.com>
- 10) Ranger-I help/ Restoration!!
by Daniel Wright <dw73454@navix.net>
- 11) Re: VT Fuzes(Again)
by Paul Monroe <pmonroe@inwave.com>
- 12) Re: HFS
by Jderm740@aol.com
- 13) Re: Ranger-I help/ Restoration!!
by Arden Allen <gumbear@pacbell.net>
- 14) Re: Help on National HFS Receiver
by James Hanlon <knjhanlon@uswest.net>
- 15) Re: VT Fuzes(Again)
by Hue Miller <kargokult@proaxis.com>
- 16) "ARC-5" and Other WWII Military Nomenclature Systems
by David Stinson <arc5@ix.netcom.com>

Date: Mon, 10 Jan 2000 12:33:42 -0500 (EST)

From: "Roberta J. Barmore" <rbarmore@indy.net>
To: Old Tube Radios <boatanchors@theporch.com>
cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Chuck's safety hints, my comments and additions.
Message-ID: <Pine.SUN.4.10.10001101227150.5723-100000@indy3>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Hi!

Power input wiring: hot to the *rear* contact of the fuse-holder (if it's a panel-mount type), then from the front contact to the switch.

Really should unplug stuff before changing the fuse, but this way, if a decent fuseholder that grabs the fuse in the cap is used, you're a little better off.

One advantage of (some of) the IEC chassis connector assemblies is that you *cannot* get at the fuse unless you pull the cord out! ...Disadvantage is, do be careful where the live end of that cord flops to when you pull it out to change the fuse; it can be a little loud otherwise.

73,
--Bobbi

KB9GKX "RJ" rbarmore@indy.net Roberta J. (Bobbi) Barmore
FISTS #3388 * G-QRP #10001 * ARRL * RSGB * WIA
Appreciator Of Vacuum-Tube Ham Gear and Vintage Keys

Message-Id: <1.5.4.16.19800104153645.1e6f3970@pop1.sympatico.ca>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
To: Old Tube Radios <boatanchors@theporch.com>
From: Andre Guibert <aguibert@sympatico.ca>
Subject: VT Fuzes(Again)
Date: Mon, 10 Jan 2000 14:44:15 -0500

Bonjour to All

If you are lucky enough to have "TM 9-2300-275-10,
Page 4-23, the following paragraph describe"Proximity
Fuze".

The fuze is essentially a self powered radio transmitting
and receiving unit. In flight, the armed fuze transmits
radio waves. When any part of the radio wave front is
reflected back from the target, it interact with with the
transmitted wave. The ripple or beat caused by this
interaction trip a switch, closing an electric circuit--
-- which cause the projectile to detonate when at obtimum

distance from the target.

Elsewhere there is a warning about a capacitor holding its charge for 30 minutes after firing, a dangerous dud.

Andre

Andre Guibert

aguibert@sympatico.ca

Message-ID: <002901bf5ba7\$32358ea0\$32f9cdd0@ehrlich>

From: "Don Ehrlich" <ehrlich@olypen.com>

To: Old Tube Radios <boatanchors@theporch.com>

Subject: HQ180 Help Needed

Date: Mon, 10 Jan 2000 12:13:23 -0800

MIME-Version: 1.0

Content-Type: text/plain;
charset="iso-8859-1"

Content-Transfer-Encoding: 7bit

T1 (first mixer output xmrf) seems to have a cracked core. At any rate, the slightest touch of the top core with a plastic tool causes a sudden drop in gain ... another touch restores it. Anybody have any experience working on this problem?

Don K7FJ

Date: Mon, 10 Jan 2000 16:03:59 -0500

From: BEN NOCK <G4BXD@compuserve.com>

Subject: Australian AR8 rx

To: Old Tube Radios <boatanchors@theporch.com>

Message-ID: <200001101604_MC2-9407-3E9F@compuserve.com>

MIME-Version: 1.0

Content-Transfer-Encoding: quoted-printable

Content-Type: text/plain;
charset=ISO-8859-1

Content-Disposition: inline

I have just received an example of this nice early WWII rx, =

the Australian AR8.

I would like to try and get the correct plug for the front before considering =

changing it. Its the power plug and its similar to the one on the TCS set=

s, =

same outer locking ring, this one has 8 pins, 7 in a U shape with one more =

in the centre of the U. ie:

```
0      0
      0
0      0

0  0  0
```

If anyone can help, I'd be most obliged. =

cheers, Ben.

<http://www.qsl.net/g4bxd>

<http://ourworld.compuserve.com/homepages/G4BXD/>=

From: FRANKK6NL@aol.com
Message-ID: <77.7787aadc.25abb851@aol.com>
Date: Mon, 10 Jan 2000 17:33:53 EST
Subject: Proximity fuse et al
To: Old Tube Radios <boatanchors@theporch.com>
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

May I add my contribution to the many msgs on this subject.
I was involved in WW2 in the operational use of the VT fuse and postwar in the late forties with a contract Raytheon had with NBS to improve the reliability of the tubes used.

My first experience with proximity fuse shells came in '43 when my ship was asked to make sample firings to approve certain lots of such shells. I remember those firings well. We fired the shell at a relatively low elevation. To be considered a good shot there would be a black puff on the horizon as shell approached the sea. Many exploded as soon as they armed and the black puff seemed uncomfortably close !! As I recall if 60 percent of the sample was ok that approved the lot. We had no idea what mechanism exploded the shell. I thought at the time it was a capacitative effect.

Now backing up to the beginnings and the development. The tubes were indeed derived from the flat press subminiatures being built by Raytheon for hearing aids in the late thirties - as someone has already pointed out in this VT fuse thread. The tubes used in the proximity fuses were practically identical to those hearing aid tubes. The only real addition was a so called "mouse

trap" filament tensioning support found needed to take care of that 100000G test centrifuge test. I believe that the proximity fuse concept and the possible use of the hearing aid tubes was from the Brits. Raytheon produced many of the fuse tubes but Sylvania was the major supplier during the war years.

The circuit which was used consisted of oscillator running at VHF around 100 Mhz. followed by a simple low pass two stage audio amplifier the output of which fired a thyratron which in turn fired the exploder. The power source and its activation has already been well described. The oscillator not only acted as an oscillator as such but also as a detector producing a beat which was a function of the relative speed of the shell and its target. As the shell approaches the target the beat is initially high and does not pass through the low pass amplifier. However, when the shell is let us say along side the target the relative speed is zero but just before it reaches that point the beat is very low and passes through the amplifier and bang ! I have seen what purported to be the signal which passes through the amplifier and it comes out more like a pulse than a tone because it happens so fast.

Don't ask me how close the shell has to get to the target because I do not know other than you need a good gunner and/or a good fire control system to get the shell to the vicinity of the target to start with.

Frank

Message-Id: <200001102241.RAA16622@smtp10.atl.mindspring.net>
Date: Mon, 10 Jan 2000 14:46:09 +0100
Subject: Tek 400 series air filters
From: "John Gibson" <gibsonj@mindspring.com>
To: Old Tube Radios <boatanchors@theporch.com>
Mime-version: 1.0
Content-type: text/plain; charset="US-ASCII"
Content-transfer-encoding: 7bit

The plastic cooling air filter on my Tek 465 scope crumbled away years ago and I was concerned about the build up of dust inside. I found that an effective replacement can be cut from a quarter inch thick scotchbrite pad which is then sprayed with household furnace air filter coat to hold the dust. The beauty is, the pad can be washed and recoated many times in the future without deteriorating.

John Gibson.

Message-Id: <3.0.32.20000110172719.007adb50@mail.wt.net>
Date: Mon, 10 Jan 2000 17:27:42 -0600
To: Old Tube Radios <boatanchors@theporch.com>
From: "Benjamin D. Hall" <kd5byb@WT.NET>

Subject: Re: Tek 400 series air filters
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Even better: for about \$3.00 more, you can buy a "universal" furnace air filter at Home Cheapo, and cut a replacement. This is what I did for my 543 - works great, and is washable too...

> The plastic cooling air filter on my Tek 465 scope crumbled away years
> ago and I was concerned about the build up of dust inside. I found that an
> effective replacement can be cut from a quarter inch thick scotchbrite pad
> which is then sprayed with household furnace air filter coat to hold the
> dust. The beauty is, the pad can be washed and recoated many times in the
> future without deteriorating.

73,
ben

Benjamin D. Hall, KD5BYB, Engine and radio collector / operator.
Located in Houston, Texas, USA.
e-mail: kd5byb@WT.net, web: <http://web.wt.net/~kd5byb/>
"An ye harm none, do what thou wilt."

From: KB9VU@aol.com
Message-ID: <87.87a64613.25abc6ab@aol.com>
Date: Mon, 10 Jan 2000 18:35:07 EST
Subject: Fwd: [R-390] R390A FS
To: Old Tube Radios <boatanchors@theporch.com>
MIME-Version: 1.0
Content-Type: multipart/mixed; boundary="part1_87.87a64613.25abc6ab_boundary"

--part1_87.87a64613.25abc6ab_boundary
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

Thanks to all who responded to this offer to sell my Chuck Ripple restored R-390A. The unit has been sold.

73 and good DX.

Mike Stover, KB9VU

In a message dated 1/10/00 10:11:19 Central Standard Time, KB9VU@aol.com writes:

> I have a Chuck Ripple restored R-390A in a new shipboard cabinet for sale.

> This is an EAC unit SN 5591. The cabinet is a CY-979A.URR SN 2055. Has
one
>
> small scratch on the front panel that can be touched up. Otherwise it is
as
>
> I received it from Chuck.
>
> Radio is surplus to my needs as I have acquired an original Collins
> Manufacture unit that is in daily use.
>
> \$1200 plus crating & shipping from 63033. Pick up is preferred and I can
> drive a bit to facilitate that. Located near St. Louis, MO
>
> Mike, KB9VU
> (314) 831-8174
>

--part1_87.87a64613.25abc6ab_boundary

Content-Type: message/rfc822

Content-Disposition: inline

Return-Path: <owner-r-390@ns3.qth.net>

Received: from rly-yb02.mx.aol.com (rly-yb02.mail.aol.com [172.18.146.2]) by
air-yb03.mail.aol.com (v67.7) with ESMTP; Mon, 10 Jan 2000 11:11:19
-0500

Received: from ns3.qth.net (ns3.qth.net [207.204.29.187]) by
rly-yb02.mx.aol.com (v67.7) with ESMTP; Mon, 10 Jan 2000 11:11:04
-0500

Received: (from majordom@localhost)
by ns3.qth.net (8.9.3/8.9.3) id MAA09122
for r-390-outgoing; Mon, 10 Jan 2000 12:16:33 -0500

Received: from imo21.mx.aol.com (imo21.mx.aol.com [152.163.225.65])
by ns3.qth.net (8.9.3/8.9.3) with ESMTP id MAA09118
for <r-390@qth.net>; Mon, 10 Jan 2000 12:16:31 -0500

From: KB9VU@aol.com

Received: from KB9VU@aol.com
by imo21.mx.aol.com (mail_out_v24.6.) id v.76.76cf8454 (7093);
Mon, 10 Jan 2000 11:06:28 -0500 (EST)

Message-ID: <76.76cf8454.25ab5d84@aol.com>

Date: Mon, 10 Jan 2000 11:06:28 EST

Subject: [R-390] R390A FS

To: boatanchors@theporch.com, glowbugs@piobaire.mines.uidaho.edu,
r-390@qth.net, baswaplist@foothill.net

MIME-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

Content-Transfer-Encoding: 7bit

X-Mailer: Windows AOL sub 44
Sender: owner-r-390@qth.net
Precedence: bulk
Reply-To: KB9VU@aol.com

I have a Chuck Ripple restored R-390A in a new shipboard cabinet for sale. This is an EAC unit SN 5591. The cabinet is a CY-979A.URR SN 2055. Has one small scratch on the front panel that can be touched up. Otherwise it is as I received it from Chuck.

Radio is surplus to my needs as I have acquired an original Collins Manufacture unit that is in daily use.

\$1200 plus crating & shipping from 63033. Pick up is preferred and I can drive a bit to facilitate that. Located near St. Louis, MO

Mike, KB9VU
(314) 831-8174

Submissions r-390@qth.net

--part1_87.87a64613.25abc6ab_boundary--

Message-Id: <3.0.3.32.20000110185925.00b55d88@mindspring.com>
Date: Mon, 10 Jan 2000 18:59:25 -0500
To: Old Tube Radios <boatanchors@theporch.com>
From: john <johnmb@mindspring.com>
Subject: RE: Measurements Model 59
Cc: "Cswiger@Wilma. Widomaker. Com" <cswiger@wilma.widomaker.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

At 12:15 PM 01/09/2000 -0500, Ed Sieb wrote:

>Yes, indeed! The Model 59.

my measurements 65 generator is also a wonderful piece....
stable, accurate and black wrinkle like test gear should be!

"lefty" aka john,

wb5oau (heading in for surgery on broken hand tomorrow)

Message-Id: <3.0.6.16.20000110184027.382f9556@mail.navix.net>
Date: Mon, 10 Jan 2000 18:40:27 -0600
To: Old Tube Radios <boatanchors@theporch.com>

From: Daniel Wright <dw73454@navix.net>
Subject: Ranger-I help/ Restoration!!
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Greetings!

I have just been given a great belated Christmas present. My ORIGINAL EFJ Ranger I!! This is the very rig that I used back in 1964 when I first upgraded to General. I have not had this rig for over 22 years and the last time I had it on the air was sometime in the late 60s! Needless to say I am overjoyed. The rig needs a LOT of work, however, so I'll be pesterin' the folks on this list for LOTS of advice....so be warned (HI!)

First question....the power cord is totally useless. It is frayed beyond hope. The fused plug is in fine shape, however. What would you folks recommend for a replacement? How about a 3-wire grounded cord? How would you connect it? Should I just go back to the 2-conductor cord and does the polarity of the hookup matter?

Thanks a lot for the help and lookout for more questions as I get farther into the rig.....(8->....

73 de Dan -- WA0JRD ..
Lincoln, Nebraska

Message-ID: <387A8355.72497A6A@inwave.com>
Date: Mon, 10 Jan 2000 19:11:49 -0600
From: Paul Monroe <pmonroe@inwave.com>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
CC: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: VT Fuzes(Again)
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

To The Group,

I have worked on proximity fuzes for several years now and perhaps can shed a little light on how the fuze works in the ground burst mode. Fuzes designed to detonate near airborne targets might work somewhat differently.

When an antenna is in free space (a long way from anything) it has a characteristic impedance that is (suprise!) call the "free space impedance". However, when the antenna comes near a conducting body, the impedance changes as a function of distance from the conducting body (in

this case the ground).

The impedance varies from a value that is higher than the free space impedance to one that is lower than the free space impedance and this variation is also most sinusoidal with distance. What's the period of this sinusoid? One wavelength!. If you look at the transmitter as an oscillator with a fixed source impedance and the antenna as a varying load, the envelope of the voltage that the prox fuze transmitter puts out on the antenna is modulated by a sine wave that goes through a maximum and a minimum every wavelength. Put a diode detector at the antenna terminals and capacitively couple it's output and you now have an AC signal that varies sinusoidally with height.

What frequency is this variation at you ask? Lo and behold it is at the same rate as the Doppler frequency that you would calculate for the velocity of the shell.

The detectors for the fuze include a band pass (in the audio range) filter and an integrator. The output of the integrator is proportional to the total number of complete wavelengths that the fuze has dropped from the time that it first began to interact with the ground. Now, set your detector threshold to start counting at some height and count off the number of wavelengths that the fuze has dropped and BANG!.

You don't have to worry about any superhetrodyne, autodyne, whatever dyne action to determine how the thing works. It's all based on the variation of the antenna impedance with altitude. This is a very ingenious way of looking at the problem which I believe we owe to our allies in Great Britain.

Height of Burst (HOB) depends heavily on the conductivity of the ground that is in the bombardment area. Salt marshes are virtually the same as a metal plate, while desert soil is a very good insulator. The artillery man will set the HOB to correspond to the nature of the target and the type of terrain.

I'd be glad to answer any further questions (if I can) on private e-mail so as to conserve reflector bandwidth.

73,

Paul, W9MEH

From: Jderm740@aol.com
Message-ID: <d4.d4ca97a0.25abec9e@aol.com>
Date: Mon, 10 Jan 2000 21:17:02 EST

Subject: Re: HFS
To: Old Tube Radios <boatanchors@theporch.com>
CC: boatanchors@theporch.com
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

Hi Liles

The National HFS is a HF reciever covering the frequencies from 27mc to 250mc useing plug-in coils. It is a combination superheterodyne-superregerative circuit. It can also be used as a converter useing it's 10.7mc output. If you have the vibrator pack it was probably used mobile in the days when cars had 6 volt systems. The National vibrator pack was a 686S. The AC powerpack was a 5886. I don't know how rare they were but I don't think they commanded a lot used. I have two of the them. I paid about 25.00 for the first with the AC Powerpack and years later, 30.00 for one without the Powerpack or botom plate. If you need a manual I'll copy mine and send it to you.

Jack McDermott Jderm740@aol.com

Date: Mon, 10 Jan 2000 18:25:42 -0800
From: Arden Allen <gumbear@pacbell.net>
Subject: Re: Ranger-I help/ Restoration!!
To: Old Tube Radios <boatanchors@theporch.com>
Message-id: <0F05006GIG4H0N@mta2.snfc21.pbi.net>
MIME-version: 1.0
Content-type: text/plain; charset=ISO-8859-1
Content-transfer-encoding: 7bit

Hi Dan;

> First question....the power cord is totally useless. It is frayed beyond
> hope. The fused plug is in fine shape, however. What would you folks
> recommend for a replacement? How about a 3-wire grounded cord? How would
> you connect it? Should I just go back to the 2-conductor cord and does
> the polarity of the hookup matter?

What I would do is replace the two wire cord with a new good quality two wire cord and a new non-fused good quality two wire plug. I would install an internal fuse holder between the line filter and power switch. I would inspect/repair/replace the entire AC primary circuit as required. New safety grade bypass caps if what's in there now is questionable. I would measure transformer primary circuit leakage (with fingers crossed) to chassis. I would make sure the rear panel grounding stud is in good condition, probably replacing it with a new 10-32 stainless steel screw. That is half the battle.

The second half of the battle is making sure your station grounding system is up to snuff and that you have a robust ground strap to connect to the grounding stud on the Ranger before you connect the new power cord to a good quality, properly wired AC outlet. Things to bare in mind: Hazard of (1) fire, (2) electric shock, (3) RF exposure, (4) lightening strike, and (5) destruction of station equipment. All of these things are interelated and until you are sure that everything done satisfactorily addresses these issues you cannot, IMHO, be sure you have a station that is maintained with regard to safety. Enjoy your old friend. 73.

Arden Allen KB6NAX Vallejo, CA gumbear@pacbell.net

Message-ID: <387AAFCB.CE76790D@uswest.net>
Date: Mon, 10 Jan 2000 21:21:31 -0700
From: James Hanlon <knjhanlon@uswest.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Help on National HFS Receiver
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Liles Garcia asked for info on the National HFS (High Frequency Superhet) Receiver. Here's what the National ad in the 1948 ARRL Handbook says about the HFS.

"An up-to-date successor to the famous National 1-10, the HFS is a new v.h.f. superhetrodyne receiver with a super-regenerative second detector. The frequency range of the HFS is 27 to 250 mc., continuous coverage with six sets of (plug-in) coils.

"The model HFS is capable of receiving CW and AM or FM signals, and is readily adaptable to portable or mobile operation. An antenna trimmer control is conveniently located on the front panel.

"The HFS is extremely versatile in v.h.f. operation for an i.f. output jack is incorporated, permitting it to be sued as a converter in conjunction with any conventional superhet receiver which tunes to 10.7 mc. As a converter, the HFS and superhet combination results in dual conversion type superhetrodyne operation with all its advantages, including excellent image rejection at all frequencies from 27 to 250 mc."

The 1953 Handbook adds, "Two-gang Main Tuning Capacitor

(local oscillator and mixer, but no RF stage), panel-controlled Antenna Trimmer Capacitor and 6 sets of plug-in coils tune the receiver in six bands. Power furnished by separate unit. Also operates with combination of B and storage batteries or 6 volt vibrator-type supply. Weight 25 lbs." And the 1953 price is \$142.00 including all coils, power supply an additional \$22.43.

I believe that the HFS was not very popular, so there are not very many of them around.

Jim Hanlon, W8KGI

Message-Id: <3.0.5.32.20000110205006.007e1950@proaxis.com>
Date: Mon, 10 Jan 2000 20:50:06 -0800
To: Old Tube Radios <boatanchors@theporch.com>
From: Hue Miller <kargokult@proaxis.com>
Subject: Re: VT Fuzes(Again)
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

>Height of Burst (HOB) depends heavily on the conductivity of the ground
>that is in the bombardment area.

--Was there any adustment on the thing that could be set by the 'end user'?

Interesting. I would say these things fit in a broad family of gizmos that includes metal detectors and even the common grid dip meter.
Hue Miller

Message-ID: <387ACC5B.86A7E47B@ix.netcom.com>
Date: Tue, 11 Jan 2000 00:23:24 -0600
From: David Stinson <arc5@ix.netcom.com>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: "ARC-5" and Other WWII Military Nomenclature Systems
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

(A gentleman kindly asked for this information.
Copied to the lists in hopes it may be useful.)

> I know that ARC means Aircraft Radio Corp
Actually, "ARC" as in "ARC-5" comes from the

mid-WWII JAN classification system for comm gear.
See below.

- > My understanding is that Command Sets were referred to
- > as both the ARC5
- > system and the SCR274 system.
- > The navy used a CBY nomenclature....
- > and SCR is Signal Corps Radio....

The Army and the Navy used different systems for radio nomenclature all the way back to WWI. The origin of the Army designation "SCR-xxx" is uncertain, but has been used to designate U.S. Army radio systems since at least 1916 or '17. The major components that make up an "SCR-xxx" radio set are assigned a "BC-xxx" number. The "BC-" number signifies a "Basic Component." Thus, an "SCR-xxx" radio set is made up of "BC-xxx" basic components.

Accessories such as mounts, shocks, bags, boxes etc., usually had nomenclatures that didn't "fit" as neatly as the "BC" system for the major components. A carrying bag for the SCR-131 antenna was a BG-49, not a "BC-xxx," and the mounting racks and shock mounts for SCR-274N are designated "FT-xxx." It wouldn't be so bad if all the sub-designations had been consistent. Some were- most Army shock mounts are designated "FT-xxx"- but many were not. For example- A canvas radio cover might be "BG-xx" (bag) for one radio set and "CS-xxx" (case) for some other set. So system engineers had to open their TM 11-486 and TM 11-487 in hopes of keeping it all straight.

At the beginning of WW-II, the Navy system was a little better, but not by much. Radio set models were designated with three-letter nomenclatures. Under that nomenclature, individual components were designated with a three- or four-letter code assigned to a particular manufacturer, followed by a number designator for that specific component of the set.

For example- consider the famous TCS. The entire radio set was designated model "TCS" by the Navy. The transmitter- if made by, say, Collins- would be a "COL-52245." "COL" means that Collins made it and "52245" is

the Navy designation for that design of transmitter.
Were the same transmitter made by Hamilton Radio,
it would be a "CHL-52245," and would still be
designated part of model "TCS."

"CBY" would mean the radio was built by Aircraft Radio Corp.

"CCT" would be Stromberg Carlson. There are many more.

The earliest production Command Sets (1940) that people call "ARC-5"
were purchased for the Navy as model ATA (the transmitter parts)
and model ARA (the receiver parts)

(why they separated them in this case is a story in itself).

If you look on the tag of one of these transmitters

(a blue tag on the top cover),

you will see "A UNIT OF MODEL ATA EQUIPMENT" between two horizontal
lines.

A 3-4 MC ATA transmitter made by Aircraft Radio Corp

would thus be designated "CBY-52208, a unit of model ATA."

One made by Stromberg Carlson would be

"CCT-52208, a unit of model ATA."

About mid-WWII, the production poo-bahs got tired

of the inter service rivalry and produced the

"JAN," or "Joint, Army/Navy" system. System nomenclatures

began with "AN/" (Army-Navy/), a three-letter designator that
actually described what the set was supposed to do- i.e.

(A)ircraft (R)adio (C)ommunications- and a model number.

Some examples:

AN/ART-13 = Aircraft Radio Transmitter model 13.

AN/APR-4 = Aircraft Radar Receiver model 4.

AN/GRC-9 = Ground Radio Communications model 9.

Individual pieces within the radio model

where designated Component/Model Number;

a 3-6 MC receiver for radio model AN/ARC-5

is designated "R-26/ARC-5."

The "Component" part of this was also defined.

Some examples:

R= receiver.

T= transmitter.

MD= modulator.

MT= mount.

DY= dynamotor.

C= control box.

An updated form of this JAN system is still in use today.

The Navy was stubborn about its manufacturer codes

and kept them on the gear. You see them

just after the serial numbers on AN/ARC-5

components (i.e. serial number "1234 CBY").

The Army was also stubborn and stuck to their SCR systems, although by war's end JAN had made big inroads and is standard now. It's interesting to note that while AN/ARC-1, AN/APT-5, AN/ARC-3 and other JAN units might be found in an Army B-24 in 1945, I have never seen an installation of AN/ARC-5 in an Army aircraft documented. They had plenty of SCR-274 sets to go around. I do have a T-19/ARC-5 transmitter with both Navy and Army inspection stamps, but I believe this to be an "oddball" and is the only such example of which I am aware.

> If the Command Set was used for aircraft to aircraft communications
> why would there be two names for the same system?
The Navy bought the system first in 1940, designating it ATA/ARA. The Army wouldn't buy it because the Navy liked it. In 1941, a new Signal Corps commander told them to can that nonsense and forced the Army to buy and use the set. The Army designated the set SCR-274N (N for Navy). Except for inspection markings and nomenclature plates, these sets are identical (not counting the 2nd and 3rd generation ATA transmitters, which have some minor mechanical differences). The AN/ARC-5 (1943) is a later, improved version of these early sets with several electrical and mechanical differences.

> Since there was no USAF until 1948,...the Army operated all
> military aircraft.
The Army had the largest air arm, known as the U.S. Army Air Corps (USAAC) and later as the U.S. Army Air Force (USAAF). The Navy had it's own air service, as did the Coast Guard.

> May I assume that the Signal Corps was common to both
> the army and the air arm thus procuring equipment for both?
The Army Signal Corps did procure equipment for all branches of the Army.

> This came up because someone asked me where the R-26/ARC5 was used.
Navy aircraft of every description from 1943 to about 1955, and in foreign services, even longer.

> Also, do you have a cross reference chart relating BC-XXX to R-xx/T-xx
> to CBY numbers for the Command Set family? I would like to post that on
> my Web page.

I believe this is available on the boatanchors archives
at www.theporch.com in the FTP section. If not, get back to me
and I'll see if I can find it.

Hope all this helps!
Additions/corrections welcome and/or argued over.

73 Dave Stinson AB5S

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